

Impact of Working Capital Management on Profitability of Cipla and Aurobindo Pharma

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Abstract—The Indian pharmaceutical business is quickly expanding in terms of output, value, quantity, and units, and there are two key factors that seem to support the Indian economy's overall development narrative. Second, there has been a significant shift in India's fundamental pharmaceutical business system. This research was carried out in order to assess the pharmaceutical sector in India. Working capital management is the single most important component in ensuring a company's existence, liquidity, solvency, and profitability. Furthermore, effective working capital management adds to the value of a company. Every segment of the economy's profitability and efficiency has a direct impact on the economy's prosperity, which may be attained largely via effective working capital management methods. It aids in the creation of a framework for smoothing out a company's financial limits in order to maximise its resources. With the importance of working capital management in mind, an investigation on its influence on the profitability of the Indian pharmaceutical business has been undertaken. This research focuses on analysing the profitability of chosen Indian pharmaceutical firms and examining the relationship between pharmaceutical companies for different profitability criteria. For this, two pharma companies have been taken in this research like Cipla limited and Aurobindo Pharma limited. The study has taken for 10 years from 2013-2014 to 2022-2023. The results showed that the inventory turnover ratio and debtors turnover ratio in case of Cipla limited and no variables in case of Aurobindo Pharma limited are having positive significant relationship with the profitability of the respected companies.

Index Terms—Pharmaceutical industry, impact of working capital management, profitability, return on capital employed, working capital.

I. INTRODUCTION

According to IBEF (2021), India is the world's top supplier of generic pharmaceuticals. The Indian pharmaceutical industry provides more than half of worldwide demand for vaccines, 40% of generic demand in the United States, and 25% of all pharmaceuticals in the United Kingdom. India is the world's third-largest producer of pharmaceuticals by volume and the fourteenth-largest producer by value. A network of 3,000 medicinal businesses and 10,500 manufacturing units make up the domestic pharmaceutical sector. In the global medicines industry, India has a significant place. In addition, the nation boasts a big pool of scientists and engineers that have the capacity to propel the sector forward to new heights. Indian pharmaceutical companies now provide over 80% of the antiretroviral medications needed to fight AIDS (Acquired Immune Deficiency Syndrome) throughout the world. The home market is predicted to rise thrice in the next decade, according to the Indian Economic Survey 2021.

According to FDI Policy, in 2021, India's domestic pharmaceutical industry is expected to be worth US\$ 42 billion, rising to US\$ 65 billion by 2024 and US\$ 120-130 billion by 2030. Biopharmaceuticals, bio-services, bio-agriculture, bioindustry, and bioinformatics are all part of India's biotechnology industry. According to Pharmaceuticals Export Promotion Council, in 2019, the Indian biotechnology sector was worth US\$ 64 billion, and by 2025, it is predicted to be worth US\$ 150 billion. In FY20, India's medical device market was worth US\$ 10.36 billion. From 2020 to 2025, the market is estimated to grow at a 37 percent CAGR to reach US\$ 50 billion. Nimalathan (2009), cleared that working capital

management helps to guarantee that a company can continue to operate on a day-to-day basis and that it has enough cash on hand to meet both short-term debt commitments and impending operating needs. It aids in the creation of a framework to assist businesses smooth out their financial restrictions and make better use of their resources. The global financial disaster and the failures of mega corporations like General Motors, Lehman Brothers, and Bear Stearns, among others, thrust industry to the forefront (Srivastava, Abhinna (2016)).

II. PROFILE OF SELECTED PHARMACEUTICAL COMPANIES

Cipla

Cipla is an Indian pharmaceutical company with a global reach. Chemical Industrial & Pharmaceutical Laboratories Ltd was founded in 1935 and changed its name to its present form in 1984. With over 1,500 goods on the market, the firm has a large portfolio. APIs, respiratory, and Cipla Global Access are the three key divisions of the corporation. India is the company's major market, followed by Africa and North America. In FY20, the company's total revenue was Rs. 17,132 crore (US\$ 2.43 billion). The corporation has 55 subsidiaries and 5 partner companies under its umbrella as of March 31, 2021.

Aurobindo Pharma

In 1986, Aurobindo Pharma was established. The firm began operations in Pondicherry in 1988–89 with a single unit that produced semi-synthetic penicillin (SSP). In 1992, the firm became public, and in 1995, its shares were placed on Indian stock markets. Aurobindo Pharma is the market leader in SSPs and also has a presence in major therapeutic areas like as neurosciences, cardiology, anti-retrovirals, anti-diabetics, gastrointestinal, and cephalosporins. The firm has nine API/intermediates units and seven formulations units, all of which are geared to fulfil the needs of advanced and developing market prospects. Aurobindo Pharma sells to approximately 125 countries throughout the world, with overseas activities accounting for more than 70% of company income. In-house research and development (R&D) is used by the corporation to expedite the submission of patents, drug master files (DMFs), abbreviated new drug applications (ANDAs), and formulation dossiers

all over the globe. It is one of India's major filers of DMFs and ANDAs.

III. REVIEW OF LITERATURE

According to Shin and Soenen (1998), effective working capital management is critical to producing value for shareholders. The management of working capital has a substantial influence on both profitability and liquidity. Correlation and regression analysis were used to investigate the association between the duration of the net trading cycle, company profitability, and risk adjusted stock return by industry and capital intensity. It was discovered that the duration of a firm's net trading cycle and its profitability had a substantial negative connection. Shorter net trading cycles were also linked to better risk-adjusted equity returns. According to Ramachandran & Janakiraman (2009), the necessity of effective working capital management in the Indian paper sector is undeniable. Working capital management is also critical since it has a direct influence on EBIT and liquidity. In his work, Abuzar M.A.Eljelley (2004) explains that effective liquidity management entails planning and regulating current assets and liabilities in a way that reduces the danger of not being able to satisfy due short-term commitments and prevents excessive investment in these assets. The relationship between profitability and liquidity, as assessed by the current ratio and cash gap (cash conversion cycle), was established using correlation and regression analysis on a sample of Saudi Arabian joint stock enterprises. According to the findings, the cash conversion cycle is more important as a measure of liquidity than the current ratio, which has an impact on profitability. At the industry level, the size variable was shown to have a considerable impact on profitability. In his study, Ashok Kumar Panigrahi (2012) discovered that there is a modest association between working capital management and company profitability, and that there is a relationship between working capital efficiency and profitability, although it is not statistically significant. Profitability and liquidity are the primary aims of working capital management, according to Smith et al. (1997). As a result, many lucrative businesses are compelled to close their doors owing to their inability to satisfy their short-term financial commitments.

RESEARCH GAP

Following a thorough study of the literature, it is clear that working capital management is of crucial importance to the researcher, as shown by the many studies undertaken in this area. However, the fact that there are so few studies on the pharmaceutical industry's working capital management and profitability is a source of worry. So, this research emerged.

OBJECTIVES OF THE STUDY

- To analyse the working capital management of the selected pharmaceutical companies.
- To evaluate the profitability performance of the selected pharmaceutical companies
- To identify the impact of working capital management on profitability of the selected pharmaceutical companies in India.

IV. RESEARCH METHODOLOGY

Because it is entirely reliant on secondary sources, the research is analytical in character. The research period for this study was 10 years, from 2013-2014 to 2022-2023. The companies are Cipla limited and Aurobindo Pharma Limited. For examining the working capital management, three variables were taken in this research viz., current ratio, inventory turnover ratio and debtors turnover ratio. For profitability, return on

capital employed has taken. Correlation analysis and linear regression analysis were used to determine the link between working capital management and profitability.

HYPOTHESIS OF THE STUDY

- There is no significant impact of current ratio on return on capital employed.
- There is no significant impact of inventory turnover ratio on capital employed.
- There is no significant impact of debtors turnover ratio on capital employed.

DATA ANALYSIS AND FINDINGS

Data analysis has been divided into three heads. 1) Analysis for examining the working capital management, 2) Analysis for examining the profitability performance and 3) analysis for examining the impact of working capital management on profitability.

1) Analysis for examining the Working Capital Management

Working capital management of the selected pharmaceutical companies have been employed through three selected ratios viz., current ratio, inventory turnover ratio and debtors turnover ratio. These ratios are discussed in the following tables.

Table 1 : Working Capital Ratios

Ratios	Min	Max	Mean	SD	CV (%)
Cipla Limited					
Current Ratio	2.221	2.964	2.675	0.243	9.087
Inventory Turnover Ratio	0.351	5.727	2.482	2.017	81.270
Debtors Turnover Ratio	2.240	8.094	5.021	1.986	39.567
Aurobindo Pharma Limited					
Current Ratio	1.886	3.960	3.147	0.623	19.805
Inventory Turnover Ratio	1.327	2.205	1.869	0.258	13.825
Debtors Turnover Ratio	2.092	3.135	2.579	0.351	13.598

The above table shows the performance of working capital ratios. The mean and standard deviation of current ratio is 2.675 and 0.243, and co-efficient of variation is 9.087 percent. It clearly indicates more consistency of the current ratio throughout study period. While seeing the inventory turnover ratio, the mean and standard deviation is 2.482 and 2.017. The

percentage value of coefficient of variation is 81.270 that indicates during the study period inventory turnover ratio has less consistency. The performance in current ratio of Aurobindo Pharma Limited is better than Cipla. The result is supported by the result of Chakraborty, (2008). The debtors turnover ratio has the mean and standard deviation value is 5.021 and

1.986. The percentage of co-efficient of variation is 39.567 that indicates during the study period, the debtors turnover ratio is having moderate consistency. On the other hand of research on Aurobindo Pharma Limited, the mean and standard deviation of current ratio is 3.147 and 0.623, and co-efficient of variation is 19.805 percent. It clearly indicates more consistency in study period. The performance in inventory turnover ratio of Cipla is better than Autobindo Pharma Limited. Mohmad and Dr. Syed (2016), also found the outcome. While seeing the inventory

turnover ratio, the mean and standard deviation is 1.869 and 0.258. The percentage value of coefficient of variation is 13.825 that indicates inventory turnover ratio has more consistency. The debtors turnover ratio has the mean and standard deviation value is 2.579 and 0.351. The percentage of co-efficient of variation is 13.598 that indicates the debtors turnover ratio during the study period is more consistency. The performance in debtors turnover ratio in Cipla is better than Autobindo Pharma Limited. The result coincides with the result of Ashok Kumar Panigrahi et al (2018).

2) Analysis for examining the Profitability

Table 3 : Return on Capital Employed

Ratios	Min	Max	Mean	SD	CV (%)
Cipla Limited	9.208	59.797	27.344	15.554	56.882
Aurobindo Pharma Limited	6.920	38.400	25.747	10.453	40.598

In the above investigation, profitability performance is shown. The mean and standard deviation of Cipla limited are 27.344 and 15.554. The CV percentage is 56.882 that indicates high volatility of the return on capital employed. The mean and standard deviation of Aurobindo Pharma Limited are 25.747 and 10.453. The CV percentage is 40.598 that indicates high volatility of the return on capital employed in study period.

3) Analysis for examining the Impact of Working Capital Management on Profitability

Table 5 : Impact of Working Capital Ratios on Profitability of Cipla Limited

Ratios	R	R ²	F	T	β	p-value
ROCE	-	-	-	-	-	-
Current Ratio	0.555	0.308	3.562	1.887	35.512	0.096 ^{NS}
Inventory Turnover Ratio	0.949	0.900	71.953	8.482	7.315	0.000*
Debtors Turnover Ratio	0.811	0.657	15.318	3.914	6.346	0.004*

Note: * - Sig. at 1% level; NS – Not Sig.

Cipla Limited has provided a detailed summary of the data used to validate the hypothesis in the table above. The correlation coefficients and regression coefficients between the dependent variable, return on capital employed, and chosen independent variables current ratio, inventory turnover ratio, and debtors turnover ratio are also included in the table. The correlation coefficient between current ratio and ROCE is determined to be negative (-0.555), indicating that the two variables have a positive linear connection. The regression coefficient for the variable current ratio is -35.512, and the p-value of the t-statistic is 0.096, which is larger than 0.05, indicating that there is strong evidence to reject the null hypothesis and accept the null hypothesis. The

correlation coefficient of current ratio is positive (0.949) in the case of Inventory turnover ratio, indicating that there is a positive linear link between them. The p-value is 0.000, which is less than 0.05, and the regression coefficient is 7.315. As a result, the null hypothesis is rejected, and it is clear that the inventory turnover ratio has a considerable influence on the company's profitability. When looking at the findings of debtors turnover ratio, the correlation coefficient value (0.811) indicates that the two variables, debtors turnover ratio and return on capital employed, have a positive linear association. With a p-value of 0.004 (less than 0.05), the regression coefficient 0.6346 suggests that the independent variable debtors turnover ratio has a substantial

influence on the company's profitability (Singh and Pandey, 2008).

Table 6 : Impact of Working Capital Ratios on Profitability of Aurobindo Pharma Limited

Ratios	R	R ²	F	T	β	p-value
ROCE	-	-	-	-	-	-
Current Ratio	0.128	0.016	0.134	-0.366	-2.150	0.724 ^{NS}
Inventory Turnover Ratio	0.304	0.092	0.814	-0.902	-12.293	0.393 ^{NS}
Debtors Turnover Ratio	0.464	0.215	2.193	-1.481	-13.826	0.177 ^{NS}

Note: NS – Not Significant

Aurobindo Pharma Limited's findings include a detailed summary of the data used to validate the hypothesis. The correlation coefficient between current ratio and ROCE is determined to be positive (0.128), indicating that the two variables have a positive linear connection. The regression coefficient for the variable current ratio is -2.150, and the p-value of the t-statistic is 0.724, which is larger than 0.05, indicating that there is sufficient evidence to reject the null hypothesis and accept the current ratio has no significant influence on return on capital employed. The correlation coefficient of current ratio is positive (0.304) in the case of Inventory turnover ratio, indicating that there is a positive linear link between them. The p-value is 0.393, which is larger than 0.05, and the regression coefficient is -12.293. As a result, the null hypothesis is accepted, and it is safe to conclude that the inventory turnover ratio has no substantial influence on the company's profitability. The correlation coefficient value (0.464) indicates a positive linear link between debtors turnover ratio and return on capital employed when looking at the outcomes of debtors turnover ratio. The regression coefficient of -13.826 and its p-value of 0.177 (higher than 0.05) show that the independent variable debtors turnover ratio has no significant influence on the company's profitability (Mohmad Mushtaq Khan & Syed Khaja Safiuddin, 2016).

V. CONCLUSION

The influence of profitability on working capital management at Cipla Limited and Aurobindo Pharma Limited was investigated in this research. For working capital management, return on capital employed was utilised as a dependent variable for profitability, whereas current ratio, inventory turnover ratio, and

debtors turnover ratio were used as independent variables. From the analysis, it is found that only inventory turnover ratio and debtors turnover ratio in case of Cipla limited and no variables in case of Aurobindo Pharma limited are having positive significant relationship with the profitability of the respected companies.

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