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IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

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Abstract:
Working capital is a financial indicator which evaluates a company's operating liquidity. Working capital is an important factor in investment decisions and a key determinant of the company's profitability. The present study focuses on working capital management and its impact on the profitability of selected Pharmaceutical companies for the period 2017-18 to 2021-22 based on secondary data. The study reveals that the Profitability position & Working Capital position over the study period is not satisfactory in Sun Pharma Industries Ltd. It concludes that there is a strong positive relationship between profitability and the current and quick ratio, where moderate impact of the inventory Turnover ratio show during the study period. The performance of Dr. Reddys Ltd. and Cipla Ltd. are significantly increasing during the study period.
Keywords: Working Capital, Current ratio, Liquid ratio, Net Profit, Correlation

1. Introduction

Working capital is a financial concept that refers to the funds a company has available for its day-to-day operations. It is the difference between a company's current assets and its current liabilities. Current assets are those assets that can be easily converted into cash within a year, such as cash, accounts receivable, and inventory. Current liabilities are the debts and obligations that the company must pay within a year, such as accounts payable, salaries payable and short-term loans.

Effective management of working capital is crucial for the financial health and success of a company. This is because working capital is the capital that a company uses to finance its day-to-day operations, such as paying suppliers, purchasing inventory, and paying salaries. If a company does not have sufficient working capital, it may face cash flow problems that can impact its ability to operate effectively and meet its financial obligations.

The pharmaceutical industry in India is one of the largest in the world, with a market size of around $41 billion as of 2021. India is the largest provider of generic drugs globally, and its pharmaceutical industry accounts for approximately 3% of the global pharmaceutical market. The industry is expected to continue to grow, driven by factors such as a large population, increasing healthcare spending, and rising demand for pharmaceutical products.

India's pharmaceutical industry is characterized by a mix of public and private companies, with the private sector accounting for the majority of the market share. The industry is dominated by a few large companies, including Sun Pharmaceutical Industries, Cipla, Lupin, Dr. Reddy's Laboratories, and Aurobindo Pharma.

2. Review of Literature

Deloof (2003) investigated the relationship between working capital management and corporate profitability for a sample of 1,009 large Belgian non-financial firms for the 1992-1996 periods. It was found a negative correlation between profitability as determined by gross operating income and the length of the cash conversion cycle as well as the number of days that accounts receivable and inventories were outstanding. He proposed that managers may boost corporate profitability by lowering the number of days' worth of inventories and accounts receivable. Companies that were less successful took longer to pay their bills.

Raheman and Nasr (2007) have selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years from 1999-2004 to study the effect of different variables of working capital management on the net operating profitability. From the study's it was found that the average collection period, inventory turnover in days, average collection period, cash conversion cycle, and profitability all had a negative correlation with working capital management factors. Also, they showed a positive correlation between business size as measured by the standardized residuals of sales and profitability.

Singh and Pandey (2008) studied the working capital components and the effect of working capital management on Hindalco Industries Limited's profitability for the years 1990 to 2007. The study's findings demonstrated that working capital to total assets ratio, receivables turnover ratio, current ratio, and liquid ratio all had statistically significant effects on Hindalco Industries Limited's profitability.

Zariyawati (2009) tried to analyse the impact of working capital management on corporate profitability of firms in six different economic sectors of the Malaysian Industry. Their results also were indicative of a strong and significant negative association between the two variables of study.

Karadaglı (2012) examined the effect of working capital management on the profitability of Turkish firms. Based on the research, for smaller companies (SMSs), an increase in the cash conversion cycle and the net trade cycle improves firm performance in terms of operating income and stock market return, whereas for larger companies, a decrease in the cash conversion cycle and net trade cycle is associated with better profitability.

A. Ajanthan (2013) studied the impact of liquidity on the profitability of trading companies in Sri Lanka using the current ratio and quick ratio for liquidity of the selected companies and return on equity and return on asset for profitability. He concludes that the significant relationship between liquidity and profitability.

3. Objectives of the Study:

- To know the working capital position and performance of the selected companies.
- To examine the impact of working capital management on the profitability of the selected Pharmaceutical companies in India.

4. Research Methodology:

The study is descriptive and based on secondary data; it has been collected from the published annual reports and different websites.

5. Scope of the study:

The main focus of this study is to determine whether there is a relationship between working capital management and firm's profit performance. To find out this relationship, top three pharmaceuticals companies – Sun Pharmaceutical Industries Ltd. (SPI Ltd.), Dr. Reddys Laboratories Ltd. and CIPLA Ltd. are selected from Nifty Pharma Index as per their weightage.

6. Period of the study:

The analysis of the working capital position of selected Pharmaceutical companies is made based on information abstracts from the annual reports of the company for a period for five years from 2017-18 to 2021-22.

7. Tools and techniques:

To analyse the impact of working capital on the profitability of the selected companies' different ratios like Current ratio(CR), Quick ratio(QR), inventory turnover ratio(ITR), Account receivable ratio(ARR), Net profit ratio(NP), Return on Capital Employed (ROCE), ANOVA and correlations method used.

8. Results and Analysis:

8.1 Net Working Capital

The difference between current assets and current liabilities on a company's balance sheet is known as net working capital. It provides an indicator of a company's liquidity and capacity to pay short-term obligations and sustain daily operations.

Table-1 Net Working Capital

(In Crores)

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	-2983	-2102	737	3723	-402	-2983	3723	-205
Dr. R L Ltd.	4319	5854	5926	6384	-2562	-2562	6384	3984
Cipla Ltd.	5206	7111	6408	7500	9296	5206	9296	7104

(Source:www.moneycontrol.com)

From the above table it can be noticed that the absolute volume of net working capital of selected the company, on average, SPI Ltd. shows negative working capital, whereas Dr. Reddy Lab. Ltd. and Cipla Ltd. reveal Positive working capital. Cipla Ltd. observed 5206 cr. To 9296 cr. uptrend during the study period but other companies' fluctuating trends followed. Although having negative working capital is generally not regarded as desirable, there are circumstances when it is useful for the business. Sometimes it means that the company can generate cash so quickly that it has time in between to pay its suppliers and creditors.

8.2 Current Ratio

This ratio indicates the company's short-term financial commitments. A higher percentage suggests greater ability to satisfy current obligations. 2:1 is the ideal current ratio. Yet, a very high current ratio is bad for a company because it indicates that the funds are negligent.

Table-2 Current Ratio

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	0.76	0.84	1.07	1.45	0.96	**0.76**	**1.45**	**1.02**
Dr. RL Ltd.	1.91	2.90	2.42	2.40	2.23	**1.91**	**2.90**	**2.37**
Cipla Ltd.	2.91	4.00	3.45	3.79	4.41	**2.91**	**4.41**	**3.71**

(Source:www.moneycontrol.com)

The above table reveals the current ratio of selected companies. The current ratio of CiplaLtd. shows higher among the selected companies, in the first year of Cipla Ltd. Shows a growing trend during the study period, Where Sun Pharma Industries Ltd. presents below 1 which indicates a company has more short-term liabilities than its current assets. Also, we can see the ideal pattern followed by Dr. Reddys Ltd. during the study. However comparatively greater current ratio, which indicates the company's assets are highly liquid and the ability to meet its current commitments at the moment, suggests Cipla Ltd.'s overall situation is extremely solid with over investment in current assets.

8.3 Quick Ratio

The liquid ratio is a comparatively stringent measure of liquidity. It is based on those which are highly liquid. A quick ratio of 1:1 is considered ideal.

Table-3 Quick Ratio

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	0.59	0.63	0.83	1.07	0.62	**0.59**	**1.07**	**0.748**
Dr. RL Ltd.	1.52	2.25	1.89	1.78	1.68	**1.52**	**2.25**	**1.824**
Cipla Ltd.	1.79	2.79	2.29	2.64	3.23	**1.79**	**3.23**	**2.548**

Source:www.moneycontrol.com)

From the above table, we can observe that the mean value of the quick ratio in Dr. Reddys Ltd. and Cipla Ltd. is almost above 2 for both companies, where Sun Pharma Ltd. shows less than 1, which means that it lacks sufficient cash balance to cover all of its immediate short term liabilities. Both companies can meet their short-term obligations during the study period.

8.4 Inventory Turnover Ratio (in times)

This ratio measures how fast inventory is moving and generating sales. The objective of computing the inventory turnover ratio is to ascertain whether a stock investment has been judicious or not, i.e. only the required amount is invested in the stock.

Table-4 ITR

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	4.22	3.69	4.76	4.04	1.40	**1.40**	**4.76**	**3.62**
Dr. RL Ltd.	5.04	5.27	5.41	1.30	1.10	**1.10**	**5.41**	**3.62**
Cipla Ltd.	3.75	4.31	4.19	4.50	0.88	**0.88**	**4.50**	**3.53**

(Source:www.moneycontrol.com)

From the above table, it is analysed that the Sun Pharma Ltd. Show's fluctuating trend during the study period and Dr.Reddys Ltd. first three year show increased trend then it was decreased in next two years. Cipla Ltd. has fluctuating trend during the study period. In the last year, selected companies show a downtrend due to covid-19 effects. Overall, selected companies have very good inventory control which finally affects profitability.

8.5 Account Receivable Ratio (in days)

Table-5 ARR

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	123	152	148	146	126	**123**	**152**	**139**
Dr. RL Ltd.	168	136	129	119	114	**114**	**168**	**133**
Cipla Ltd.	68	77	91	99	77	**68**	**99**	**82**

(Source:www.moneycontrol.com)

From the above table, the mean of ARR presented Cipla Ltd. has the lowest receivable turnover ratio of 68 days as compared to the selected pharmaceutical companies, where average collection period for Sun Pharma Ltd. was 139 days which was highest among the selected companies throughout the investigation, however, it must improve its credit policy for receivables collections. Overall selected companies maintained their average ARR.

8.6 Net Profit Ratio

The net profit percentage is defined as the ratio of after-tax income to net sales. It shows the remaining profit after income taxes are recognised and all manufacturing, administrative, and financing costs are subtracted from sales. Because to this, it is one of the best measures of a company's performance overall, especially when matched to an evaluation of how well it is using its working capital.

Table-6 NP Ratio

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	3.39	7.92	25.62	16.71	-0.64	**-0.64**	**25.62**	**10.6**
Dr. RL Ltd.	6.05	12.02	24.78	16.37	11.26	**6.05**	**24.78**	**14.10**
Cipla Ltd.	12.89	15.26	18.31	17.75	22.59	**12.89**	**22.59**	**17.36**

(Source: www.moneycontrol.com)

From the above table, we can see that the net profit ratio of Cipla Ltd. show the highest among the selected pharmaceutical companies and Sun Pharma Ltd. observed a lower return on revenue. Dr. Reddys Ltd. revealed fluctuating trending during the study period from 6.05 % to 24.78 %, whereas Sun Pharma Ltd. suffer from loss during the study period due to an increase in the cost of goods sold and its effect on profit.

8.7 Return on capital Employed ratio:

Return on Capital Employed (ROCE), a profitability indicator, measures how successfully a company uses its capital to generate profits. Investors often assess a company's investment potential using the return on capital employed figure. It is thought to be among the best profitability ratios.

Table-7 ROCE

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Min.	Max.	Avg.
SPI Ltd	6.68	10.12	13.45	8.15	8.20	**6.68**	**13.45**	**9.32**
Dr. RL Ltd.	6.13	13.34	18.46	18.17	12.25	**6.13**	**18.46**	**13.67**
Cipla Ltd.	13.93	15.63	16.86	16.75	15.72	**13.93**	**16.86**	**15.78**

(Source: www.moneycontrol.com)

From the above table, we can see that the ROCE of Sun Pharma Ltd. shows the highest mean value at 15.78 % among the selected pharmaceutical companies and Sun Pharma Ltd. observed a lower return on capital employed. Dr. Reddys Ltd. revealed ups and down trending during the study period from 18.46 % to 6.13 %. Overall Dr. Reddys Ltd. and Cipla Ltd.'s return on capital employed is satisfactory but Sun Pharma Ltd. required improvement for generating profit.

8.8 Hypothesis testing

H0: There is no significant difference between CR, QR, ITR, ARR, NP, and ROCE of the selected Pharmaceutical companies.

H1: There is a significant difference between CR, QR, ITR, ARR, NP, and ROCE of the selected Pharmaceutical companies.

Table-8

ANOVA							
	Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Current Ratio	Between Groups	16.046	2.000	8.023	76.675	0.000	4.256
	Within Groups	0.942	9.000	0.105			
	Total	16.988	11.000				
Quick Ratio	Between Groups	7.655	2.000	3.828	44.454	0.000	4.256
	Within Groups	0.775	9.000	0.086			
	Total	8.430	11.000				
Inventory Turnover Ratio	Between Groups	0.108	2.000	0.054	0.015	0.985	4.256
	Within Groups	32.485	9.000	3.609			
	Total	32.593	11.000				
Account Receivable Ratio	Between Groups	6774.474	2.000	3387.237	29.350	0.000	4.256
	Within Groups	1038.658	9.000	115.406			
	Total	7813.132	11.000				
Net Profit Ratio	Between Groups	74.999	2	37.500	0.641	0.549	4.256
	Within Groups	526.766	9	58.530			
	Total	601.765	11				
Return on capital employed	Between Groups	94.317	2.000	47.158	8.327	0.009	4.256
	Within Groups	50.971	9.000	5.663			
	Total	145.288	11.000				

(Source: calculated in Excel)

As per the table current ratio, quick ratio, Account receivable ratio, and return on capital are employed to show the p-value is less than 0.05 values, so the null hypothesis is rejected and the alternative hypothesis is accepted. Hence it concludes that there is a significant difference between selected pharmaceutical companies and the inventory turnover ratio and net profit ratio shows a p-value is more than to its significant value so the null hypothesis is accepted. Hence there is no significant difference in selected pharmaceutical companies in India.

8.9 Correlation analysis:

A statistical measure called correlation shows how much two or more variables fluctuate in connection to one another. When two variables rise or decrease simultaneously, there is a positive correlation; when there is a negative correlation, one variable increases as the other falls.

Table-9

	CR	**QR**	**ITR**	**ARR**	**NP**	**ROCE**
CR	1					
QR	0.9888	1				
ITR	-0.0652	-0.0537	1			
ARR	-0.7488	-0.6662	0.30492	1		
NP	**0.48324**	**0.50778**	**0.17188**	**-0.2457**	1	
ROCE	**0.69655**	**0.68955**	**-0.0477**	**-0.5667**	0.74312	1

(Source: calculated in Excel)

From the above table, the correlation analysis of all variables reveals a positive correlation between various working capital performance indicators on net profit but the Account receivable ratio shows a negative impact on net profit and returns on capital employed, which indicates if any changes in ARR then it will affect profitability, and the inventory turnover ratio observed a significant low correlation with its normality on profitability. Current and quick ratios have a moderate positive correlation with net profit and where strong correlation show on return on capital employed.

9. Conclusion

Referring to the objectives of the study the overall performance of working capital management is found to be satisfactory during the study period. All selected companies have shown significant improvement in performance in terms of management of working capital and profitability aspects. However, there is a need for improvement in Sun Pharma Ltd. and Dr. Reddys Ltd. related to working capital management. Companies' profitability will subsequently improve if they control their working capital and increase sales in the next years. Further, we can conclude that Cipla Ltd. is operating well from a working capital management of view and have a sound liquidity position.

References:

1. Singh, J. P., & Pandey, S. (2008). Impact of Working Capital Management on the Profitability of Hindalco Industries Limited. ICFAI Journal of Financial Economics, 6(4).
2. Deloof, M. (2003). Does working capital management affect profitability of Belgian firms?. Journal of business finance & Accounting, 30(3-4), 573-588.
3. Raheman, A., & Nasr, M. (2007). Working capital management and profitability– case of Pakistani firms. International review of business research papers, 3(1), 279-300.
4. Singh, J. P., & Pandey, S. (2008). Impact of Working Capital Management in the Profitability of Hindalco Industries Limited. ICFAI journal of financial Economics, 6(4).
5. Zariyawati, M. A., Annuar, M. N., Taufiq, H., & Rahim, A. A. (2009). Working capital management and corporate performance: Case of Malaysia. Journal of Modern Accounting and Auditing, 5(11), 47
6. Ajanthan, A. (2013). The relationship between dividend payout and firm profitability: A study of listed hotels and restaurant companies in Sri Lanka. International Journal of Scientific and Research Publications, 3(6), 1-6.
7. Bhattacharya, H. (2021). Working capital management: Strategies and techniques. PHI Learning Pvt. Ltd.
8. https://www.moneycontrol.com/
9. https://corporatefinanceinstitute.com/
10. https://statisticsbyjim.com/basics/correlations/
11. https://www.financialexpress.com/money/company-fundamentals-when-negative-working-capital-is-not-a-bad-thing/1096310/