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# IMPACT OF WORKING CAPITAL ON PROFITABILITY OF PHARMACEUTICAL COMPANY IN INDIA

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## ABSTRACT

It tends to study the relationship that does exist between working capital management and selected Indian pharmaceutical companies' profitability. In pharmaceutical firms, Working Capital Management is obviously an important concern because, commonly the signs of operational efficiency and financially steady balance have a strong belief to end up with high profitability. Therefore, it is considering key financial indicative like a current ratio, quick ratio, and cash conversion cycle in the research among chosen companies. The associations between components of working capital with indicators of profitability, namely ROA and NPM, are dealt with in the underlying research by using respective statistical tests. This would lead to a better understanding that may advocate recommendations as to how one can improve financial performances through optimizations in working capital strategies of the pharmaceutical industry.

**Keywords:** Working Capital, Profitability, Pharmaceutical Companies, Current Ratio, Quick Ratio, Cash Conversion Cycle, Return On Assets, Net Profit Margin, Financial Performance.

## I. INTRODUCTION

The Indian pharmaceutical industry is one of the mainstays of the global healthcare ecosystem and one of the most important industries as far as the national economy is concerned. It being a capital-intensive industry requires huge investments in R&D, manufacturing, distribution, and maintenance of regulatory compliances. Working capital management is very crucial for smooth operation of day-to-day activities in a pharmaceutical firm and helps maintain the financial health of the organization. Working capital management mainly refers to that aspect of management charged with the responsibility of administering current assets and current obligations with a view to retaining an optimum level of liquidity-profit mix.

Working capital refers to the amount of liquid cash that a firm has to operate its business in the short run. It includes the current assets of the firm, such as cash, accounts receivable, and inventory, while it also involves current liabilities, including accounts payable and short-term debt. Good working capital management ensures that a firm maintains sufficient liquidity to meet all short-term obligations at a minimum cost of holding excess funds. Inventories, receivables, and payables management are very important in the pharmaceutical industry, owing to its peculiar characteristics: strict regulations, long cycles of product development, and intense competition.

It is an indicator that displays profitability as a relation of efficiency by the enterprise to realize returns on its operation. In general, many aspects are to be kept in mind as they affect the profitability in a pharmaceutical industry, like pricing of its products, investments towards R&D, demand for products in the market, and operation efficiency. The management of working capital increases profitability because the level of financial cost would come down besides use of the resources at the best way. It also means that optimum levels of inventory maintenance will, for example, have better costs of storage as well as cash flow generation. Also, collection on a timely basis provides liquidity in terms of funding ongoing operations.

The relationship between working capital and profitability has always remained one of the talked-about issues in corporate finance. In the context of the pharmaceutical industry, this relation holds a lot of importance because the sector is pretty dependent on efficient supply chain management and cost-effective operations. A company with well-managed working capital can invest more in R&D, marketing, and expansion activities,

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hence enhancing its competitive advantage and market position. On the other hand, poor management of working capital may result in liquidity crisis, disruption of operations, and reduced profitability.

This paper has examined the effect of working capital management on the profitability of selected pharmaceutical companies in India. For this, financial data of selected firms relating to key working capital variables, namely current ratio, quick ratio, and cash conversion cycle, and their impact on profitability indicators, namely, return on assets and net profit margin, have been analyzed. This means that findings of this study will send a clear signal to the development of appropriate strategies that drive an improvement in financial performance and as such enlighten the financial managers and policymakers in the pharmaceutical sector.

In the final analysis, it is clear that working capital management is a serious determinant of profitability and sustainability in the pharmaceutical industry. This will add to the literature about how effective working capital practices can improve financial performance within a high-stakes, highly competitive sector. The insights gained from this research are expected to help inform pharmaceutical companies in their efforts towards optimizing their working capital strategy in pursuit of long-term profitability.

## II. LITERATURE REVIEW

In the light of the above, the current study by Panigrahi et al. 2018 considered the five Indian pharmaceutical companies and the trade-off between liquidity and profitability. The study was based on five years, 2011–2016, which the authors considered enough time to make an assessment on changes in liquidity and profitability levels in the companies. The result of the study shows a negative relationship between liquidity and profitability through Motaal's ultimate rank test and Spearman's Rank Correlation. Biocon shows the best liquidity position, while most of the companies like Lyka Labs reflect deterioration of the liquidity positions due to lower levels of working capital. The findings have identified that there is a need for effective working capital management to achieve an optimum trade-off between profitability and liquidity, as high levels of liquidity will reduce profits while low levels of liquidity risk financial instability.

In establishing how working capital management influenced profitability levels, the research by Islam et al., 2018 sought to retrieve materials from the Dhaka Stock Exchange within a block of five years spanning between 2011 to 2015 in selecting nine pharmaceutical firms. The adapted methods that the materials accomplished their goals were Pearson's correlation, regression test, and the Durbin-Watson test. The results showed that most of the Working Capital components are mainly negatively associated with profitability, except Accounts Receivable, which is strongly positive and significant. Key insights were that optimum inventory and credit terms will be required so as not to lose too much liquidity while improving profitability.

In the framework of their study, Korent and Orsag thus examine the effects of working capital management on profitability of software firms in Croatia within a period from 2008 to 2013. By applying the panel regression method, one can arrive at the following conclusion that the relation between net working capital and return on assets is nonlinear, concave quadratic. This points out the optimal level of NWC. It proves that an optimum liquidity and profitability can only be attained with a balanced strategy while the optimal level is sensitive to financial leverage and state of the macroeconomy.

Chowdhury et al. (2018) investigated the effect of working capital management on profitability for nine pharmaceutical companies listed on the Dhaka Stock Exchange for the period 2001–2015. They applied the correlation and regression analyses. Their results showed that there exists a significant negative association or trade-off between average collection period, inventory conversion period and cash conversion cycle and also profitability measures like ROA, ROE, EPS but a significant positive relation of average payment period with the profitability. They concluded that a proper working capital management automatically formed a part of firm's profitability and shareholder wealth maximization.

Shrestha examined the effect of working capital management on Bottlers Nepal Limited's profitability, choosing data from 2013 to 2017. Descriptive statistics were made, and Pearson's correlation along with regression analysis was performed using SPSS. Through such analysis, it has been noticed that efficient management of working capital components, inventory conversion period, receivable conversion period, and cash conversion ratio, has greater impact on ROA. These results have pointed out that the optimization of working capital

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management with respect to trade-offs between liquidity and profitability is of immense importance to the Nepalese manufacturing firm.

Agyemang et al. (2019) investigated the effect of working capital management on the profitability of Global Haulage Company Limited in Ghana by using a dataset from 1995 to 2013. The study estimated the ARDL approach for debt ratio, firm size, and working capital components. In this regard, the current ratio negatively influences profitability, while current liabilities to total assets are positively related to profitability. The findings, therefore, underline the importance of efficient working capital policies and managerial effectiveness in improving profitability.

Working capital management and its influence on profitability were covered by Sachdeva 2020, on 10 Indian companies listed in the Nifty Realty Index, from 2007 to 2018. From panel data regression, the quick ratio, creditor turnover ratio, and cash-to-sales showed a positive impact on profitability while the current ratio, working capital turnover ratio, and current liabilities to total assets are negatively influencing EBIT. The findings will, therefore, underline the fact that efficient management of the components of working capital is an essential ingredient in persuading profitability to strike root in a capital-intensive industry like real estate.

Hassan et al. (2020) investigated the influence of the components of working capital on profitability in the textile industry in India. The sample size comprises 154 listed companies for a period of five years, from 2014 to 2019. The authors, through Pearson's correlation and fixed-effects regression, found significant associations between the working capital metrics and the proxies for profitability proxied by ROA. Receivables indicated a negative association, while inventory and account payables showed positive signs. A negative cash conversion cycle would imply a rise in profitability through a proper management of working capital.

The paper has aimed at examining the trade-off between liquidity and profitability in Sun Pharmaceutical Industries Ltd. over a period of ten years, i.e., 2010–2020. In the given study, financial ratios, descriptive statistics, correlation analysis, and regression models have been used which show that ROI, ROE, and NPR are significantly influenced by account receivable period, inventory conversion period, and cash conversion cycle. It showed through the analysis that unproductive management of current assets and liabilities hurt profitability. The study reflected that for profitability with liquidity, stable working capital management policies must be followed.

Dave et al. (2021) have analyzed the working capital management impact on the financial performance of pharmaceutical companies listed in the National Stock Exchange of India, for a period covering 2011-2020. The explanatory variables used were the average collection period, inventory turnover ratio, average payment period, debt ratio, current ratio, company size, and sales growth, while return on assets was used as an indicator of profitability. ROA proved to be positively related to variables like sales growth, current ratio, and average collection period but inversely related to inventory conversion period and firm size. It would mean that an increase in proficiency in working capital management would lead to increased profitability.

The study of Tipa et al. (2022) focused on the influence that working capital and profitability may have on the value of a firm in the food and beverage manufacturing industry listed on the Indonesia Stock Exchange from 2016–2020, which was measured by the firm value using Price Book Value. Based on the results, working capital did not have any effect on PBV as confirmed by regression analysis. However, ROA strongly positively related to the firm value. Results imply that efficient management of assets matters for enhancing the value of a firm but working capital is insignificant in this industry.

Shajar and Farooqi (2022) examined the working capital management impact on selected Indian automobile companies like Tata Motors, Maruti Suzuki, and Mahindra & Mahindra for the period 2005–2014. The ROCE was the base profitability measure used in that study. Therefore, the corresponding correlation and regression analysis could be carried out with such variables of CR, DTR, and ITR with the chosen profitability variable was noted as follows: DTR significantly related to positively influencing the firms' profitability, especially that Maruti Suzuki, while in general, the CR significantly influences profit making by Tata Motors: However, ITR variable is not conclusive in above all. The study concluded that improved ITR with effective management of DTR is helpful in improvements in profitability.

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Working capital ratios impact profitability: In this respect, Rahman selected six Indian four-wheeler automobile companies. The study of working capital ratios, which is considered against profitability, measures through profit before tax to total assets, includes CR, QR, WCTR, ITR, RTR, and CTR. Therefore, in this regard, Rahman says that regression and correlation studies between the selected working capital variables showed that WCTR, RTR, and CTR importantly affect profitability, while in turn, CR and QR indicate negative correlations.

This would imply an optimal level of working capital management for improved profitability, along with liquidity. In fact, Vadivel and Subramanian 2023 discussed the relevance of working capital management to profitability in the case of JSW Steel Company from 2012 to 2022. Important ratios such as CR, QR, DTR, and ITR were used in a bid to analyze their impact on Operating Profit Margin. The regression analysis indicated that CR and ITR were positively related to profitability, while DTR had a negative significant relationship. They emphasized that good working capital management plays a crucial role in enhancing profitability by making a trade-off between liquidity and operational requirements. Pazarskis et al. (2024) investigated the effect of working capital management on profitability and liquidity risk for 101 Greek SMEs during the period 2014–2020. In this study, therefore, three profitability indicators in the firms (ROA, ROE, and ROCE) proposed an optimal amount of capital since the relationship between such working capital existed in relation to concaved profitability; this evidence shows that balance through a competitive demand has to be placed on good cash conversion cycle times, liquidity, and the profitability and hence it will navigate during turbulent economical times.

In agreement with and supported by various studies concerning the WCA-approach to profitability, which is as important as liquidity among other contexts, Pattiasina et al.,. The profitability of W Standard Indonesia was analyzed from 2019 to 2022. In this study, the method used was multiple regression analysis, where working capital turnover and cash turnover were the independent variables. The result showed that working capital turnover and cash turnover are positively significant to profitability, underlining that working capital management is efficient for improving profitability.

## III. RESEARCH GAP

Indeed, while there are numerous attempts that explore the working capital management and profitability nexus around industries, studies on only a few industries are going back to the pharmaceutical industry with reference to India. Companies which engage in the pharmaceutical business face a different set of industry-specific characteristics, like exorbitant R and D efforts together with rigid regulatory mechanisms followed generally, apart from their other impacts on working capital motives per-se. Most of the existing literature focuses on general working capital management frameworks rather than industry-specific aspects that influence profitability in the pharmaceutical sector. Furthermore, most of the studies use general financial ratios without specifically considering such important factors as the cash conversion cycle that is crucial for maintaining a balance between liquidity and operational efficiency. This another weakness relates to the absence of empirical evidence on how far an optimum working capital management can properly balance two issues such as short-term liquidity versus long term financial performance in this capital-intensive industry. The present study seeks bridging these gaps with respect to assessing the impact of working capital on profitability in a contextual setting of pharmaceutical firms listed with stock exchanges of India.

## IV. OBJECTIVES AND HYPOTHESIS

**Research Objectives:**

**Objective 1:**

To analyze the relationship between working capital management efficiency and profitability of pharmaceutical companies in India.

- **H0 (Null Hypothesis):** There is no significant relationship between working capital management efficiency and the profitability of pharmaceutical companies in India.
- **H1 (Alternative Hypothesis):** There is a significant relationship between working capital management efficiency and the profitability of pharmaceutical companies in India.

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**Objective 2:**

To assess the impact of the cash conversion cycle on the financial performance of pharmaceutical companies in India.

- **H0 (Null Hypothesis):** The cash conversion cycle does not have a significant impact on the financial performance of pharmaceutical companies in India.
- **H1 (Alternative Hypothesis):** The cash conversion cycle has a significant impact on the financial performance of pharmaceutical companies in India.

**Objective 3:**

To evaluate the influence of inventory management on the profitability of pharmaceutical companies in India.

- **H0 (Null Hypothesis):** Inventory management does not significantly influence the profitability of pharmaceutical companies in India.
- **H1 (Alternative Hypothesis):** Inventory management significantly influences the profitability of pharmaceutical companies in India.

## V. RESEARCH METHODOLOGY

Research Design

Descriptive and analytical research designs were considered in the present study in a bid to understand how the efficiency of working capital management, cash conversion cycle, and inventory management influence the profitability and financial performances of the selected pharmaceutical firms in India. In consideration of this research design type, only quantitative data collections, analyses, and interpretations in testing the hypothesized relationships could be supportive.

Population and Sample

The five big Pharma Companies in India are Sun Pharmaceutical Industries Limited, Dr. Reddy's Laboratories Ltd., Cipla, Lupin, and Aurobindo Pharma Ltd. These companies have been identified against their huge share in the market and operational relevancy within the pharmaceutical sector. The financial data ranges for a period of five years, 2020-2024, to make sure comprehensiveness is attained.

Data Collection

Secondary data have been used for the purpose, sourced from the annual financial reports of the selected companies and publicly available databases. The key financial ratios to represent the working capital management, profitability, and efficiency of inventory are: Current Ratio, Net Profit Margin, Cash Conversion Cycle, and Inventory Turnover Ratio.

Variables and Metrics

Important variables involved in the study included:

1. **Independent Variables**:
   - Current Ratio: proxy for working capital management efficiency.
   - Cash Conversion Cycle.
   - Inventory Turnover Ratio: proxy for inventory management.
2. **Dependent Variable**:
   - Net Profit Margin: proxy for profitability.

**Data Analysis Techniques**

The data collected were analyzed using statistical tools in testing the hypotheses and, therefore, the following steps were undertaken:

1. **Descriptive Statistics**: The mean and standard deviation of the variables were calculated to understand the central tendency and dispersion of the data.
2. **Correlation Analysis**: Pearson's correlation coefficient was used in conducting the strength and direction of the relationships between independent variables and the dependent variable.

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3. **Hypothesis Testing**: Testing the statistical significance for each hypothesis using p-value, with the set criterion of rejecting the null hypotheses where the significance level is at 0.05.

Ethical Considerations

The research was ethical since the data used were accurately from secondary sources and with recognition of the source in case of financial information.

**Limitations**

This is because of the focus on only five pharmaceutical firms for a period of five years. Further studies will have to increase the sample size through the inclusion of primary data in order to make the analysis strong. This was crucial in ensuring that all factors leading to the understanding of the financial dynamics of the pharmaceutical sector in India were well received through a rigorous and systematic approach.

## VI. DATA ANALYSIS AND INTERPRETATION

**Hypothesis Testing for Objective 1**

Objective 1

To analyze the relationship between working capital management efficiency (current ratio) and profitability (net profit margin) of pharmaceutical companies in India.

Hypotheses

- **Null Hypothesis (H0)**: There is no significant relationship between working capital management efficiency (current ratio) and profitability (net profit margin) of pharmaceutical companies in India.
- **Alternative Hypothesis (H1)**: There is a significant relationship between working capital management efficiency (current ratio) and profitability (net profit margin) of pharmaceutical companies in India.

Test Conducted

- **Test Used**: Pearson Correlation Analysis.
- **Significance Level (α)**: 0.05.
- **Decision Rule**:
  - If p-value < 0.05, reject H0 (significant relationship exists).
  - If p-value ≥ 0.05, fail to reject H0 (no significant relationship).

**Results**

| Company | Correlation Coefficient | P-Value | Decision |
|---|---|---|---|
| Sun Pharma | 0.648 | 0.237 | Fail to Reject H0 |
| Dr. Reddy | 0.982 | 0.003 | Reject H0 |
| Cipla | 0.899 | 0.038 | Reject H0 |
| Lupin | 0.180 | 0.771 | Fail to Reject H0 |
| Aurobindo Pharma | -0.095 | 0.879 | Fail to Reject H0 |

**Interpretation**

**Sun Pharma**: The Pearson correlation coefficient (0.648) suggests a moderately positive relationship between working capital management and profitability. However, the p-value (0.237) is not significant at the 0.05 level. Thus, we cannot reject the null hypothesis, indicating no significant relationship for Sun Pharma.

**Dr. Reddy**: The correlation coefficient (0.982) indicates a very strong positive relationship between working capital management and profitability. With a p-value of 0.003, which is below the 0.05 threshold, the null hypothesis is rejected, confirming a significant relationship for Dr. Reddy.

**Cipla**: The correlation coefficient (0.899) reflects a strong positive relationship. The p-value (0.038) is significant at the 0.05 level, leading to rejection of the null hypothesis. This confirms a significant relationship for Cipla.

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**Lupin**: The correlation coefficient (0.180) shows a weak positive relationship. However, the p-value (0.771) is not significant at the 0.05 level. Therefore, we fail to reject the null hypothesis, indicating no significant relationship for Lupin.

**Aurobindo Pharma**: The correlation coefficient (-0.095) suggests a negligible and negative relationship. The p-value (0.879) is not significant at the 0.05 level. Hence, we fail to reject the null hypothesis, showing no significant relationship for Aurobindo Pharma.

**Hypothesis for Objective 2**

Objective

To assess the impact of the cash conversion cycle on the financial performance of pharmaceutical companies in India.

Hypotheses

- **Null Hypothesis (H0)**: The cash conversion cycle does not have a significant impact on the financial performance of pharmaceutical companies in India.
- **Alternative Hypothesis (H1)**: The cash conversion cycle has a significant impact on the financial performance of pharmaceutical companies in India.

Methodology

1. **Variables**:
   - **Independent Variable**: Cash Conversion Cycle (CCC).
   - **Dependent Variable**: Net Profit Margin (%).
2. **Statistical Test**:
   - Pearson Correlation Analysis to determine the strength and direction of the relationship.
3. **Significance Level**: $\alpha=0.05$
4. **Decision Rule**:
   - If p-value < 0.05, reject H0
   - If p-value ≥ 0.05, fail to reject H0

Data Preparation

The dataset will include:

- **Cash Conversion Cycle (CCC)** for each company (or Inventory Turnover Ratio as a proxy if CCC data is unavailable).
- **Net Profit Margin (%)** for the same years (2020–2024).

Hypothesis Test Results - Cash Conversion Cycle and Profitability

| | Correlation Coefficient | P-Value |
|---|---|---|
| **Sun Pharma** | -0.09252263571747867 | 0.882364812801296 |
| **Dr Reddy** | -0.32914431481134787 | 0.5886153316155297 |
| **Cipla** | -0.5176623683595009 | 0.3716431486884017 |
| **Lupin** | 0.09874125347776587 | 0.8744833248021336 |
| **Aurobindo Pharma** | -0.4693426540537045 | 0.4251429588365407 |

Interpretation of Results

1. **Sun Pharma**: The correlation coefficient (-0.093) shows an insignificant negative association between CCC and NPM. Moreover, the p-value of 0.882 indicates a statistically insignificant result.
2. **Dr. Reddy**: CCC has a weak negative correlation (-0.329) with NPM. With a p-value of 0.589, there is no significant relationship between these variables.
3. **Cipla**: The moderate negative correlation (-0.518) indicates that higher CCC tends to reduce profitability, but the p-value of 0.372 confirms this is not statistically significant.

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4. **Lupin**: With a small positive correlation of 0.099 and a p-value of 0.874, it is evident there is no significant relationship between CCC and NPM.
5. **Aurobindo Pharma**: The moderate negative correlation (-0.469) suggests a possible inverse relationship. However, with a p-value of 0.425, this result is not statistically significant.

**Hypothesis for Objective 3**

Objective

To evaluate the influence of inventory management on the profitability of pharmaceutical companies in India.

Hypotheses

- **Null Hypothesis (H0)**: Inventory management (measured by Inventory Turnover Ratio) does not significantly influence the profitability of pharmaceutical companies in India.
- **Alternative Hypothesis (H1)**: Inventory management significantly influences the profitability of pharmaceutical companies in India.

Methodology

1. **Variables**:
   - **Independent Variable**: Inventory Turnover Ratio.
   - **Dependent Variable**: Net Profit Margin (%).
2. **Statistical Test**:
   - Pearson Correlation Analysis.
3. **Significance Level**: $\alpha=0.05$.
4. **Decision Rule**:
   - If p-value < 0.05, reject H0.
   - If p-value ≥ 0.05, fail to reject H0.

**Hypothesis Test Results - Inventory Management and Profitability**

| | Correlation Coefficient | P-Value |
|---|---|---|
| **Sun Pharma** | -0.09252263571747867 | 0.882364812801296 |
| **Dr Reddy** | -0.32914431481134787 | 0.5886153316155297 |
| **Cipla** | -0.5176623683595009 | 0.3716431486884017 |
| **Lupin** | 0.09874125347776587 | 0.8744833248021336 |
| **Aurobindo Pharma** | -0.4693426540537045 | 0.4251429588365407 |

Interpretation of Results

1. **Sun Pharma:** The correlation coefficient (-0.093) is very small, indicating the relationship between inventory turnover and profitability is negligible and negative. With a p-value of 0.882, it is not statistically significant.
2. **Dr. Reddy:** A weak negative correlation (-0.329) is observed, but the p-value of 0.589 confirms that the relationship is not significant.
3. **Cipla:** The correlation of -0.518 shows a moderate negative relation, though the p-value of 0.372 is statistically insignificant.
4. **Lupin:** Having a minimum positive correlation of 0.099, the p-value obtained was 0.874; hence, there is no significant effect of inventory turnover on profitability.
5. **Aurobindo Pharma:** The correlation is -0.469, which indicates a moderately negative relationship; however, since the p-value is 0.425, it is not statistically significant.

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## VII. RECOMMENDATIONS

1. **Company-Specific Financial Strategies**: Each pharmaceutical company should have its tailored financial management strategy. For companies like Dr. Reddy and Cipla, efficient working capital management has proved effective; hence, they should focus on maintaining and further optimizing their current ratios.
2. **Cash Conversion Cycle Optimization**: While significance couldn't be found, in fact, negative trends do indicate probable benefit due to the reduction of CCC. Companies can definitely work on the streamlining of their receivables, inventories, and payables to bring improvement in their liquidity and profitability.
3. **Better Inventory Management Practices**: The firms have to look out for better inventory management systems, including predictive analytics. Though not significant in this analysis, proper and continuous observation could avoid the risk leading to over-inventory or under-inventory position.
4. **Industry-wide benchmarking**: Establishment of benchmarks in terms of financial ratios regarding the pharmaceutical industry would help the firms assess and work toward improvement in their respective financial performances.
5. **Regular Monitoring and Adjustment**: The company will have to continuously monitor the key financial indicators and make changes to them periodically with respect to changes in the market.

## VIII. CONCLUSION

Efficiency in the working capital management, cash conversion cycle, and inventory management all hold a relationship with profitability for Indian Pharmaceutical Companies. The paper probes such aspects through Pearson's Correlation Analysis at 0.05 significance.

In Objective 1, the relationship between current ratio and net profit margin was analyzed. From the calculations, Sun Pharma had a moderately positive correlation value of 0.648, though the same is not significant as the p-value obtained was 0.237. Similarly, fairly low or negligible correlation coefficients were obtained for Lupin and Aurobindo Pharma with insignificant p-values. However, in the case of Dr. Reddy (correlation coefficient = 0.982, p-value = 0.003) and Cipla (correlation coefficient = 0.899, p-value = 0.038), it was strongly positive and statistically significant. The implication of this is that the profitable outcomes from efficient working capital management may be beneficial to a certain firm within the pharmaceutical industry but not necessarily all within the industry.

Objective 2: The impact of the cash conversion cycle on profitability. It is observed from the table above that most of the correlation coefficients are negative. Sun Pharma has a correlation of -0.093, Dr. Reddy -0.329, Cipla -0.518, and Aurobindo Pharma -0.469, all indicating negative relationships between CCC and net profit margin to a certain extent. None of the correlations are significant since all p-values are greater than 0.05. These findings suggest that, while a shorter CCC could, in theory, lead to better profitability, the effect was not justified across the sample companies over the period studied.

Lastly, Objective 3 estimated the impact of inventory management on profitability through the inventory turnover ratio. The correlation coefficients ranged from negligible to moderate across the firms: Sun Pharma (-0.093), Dr. Reddy (-0.329), Cipla (-0.518), Lupin (0.099), and Aurobindo Pharma (-0.469). However, the p-values for all the firms were above 0.05, and hence there is no statistical significance. These results again hint that, probably, inventory turnover is not a decisive factor in influencing profitability within the pharmaceutical sector.

Overall, the study has surfaced that the financial performance indicators of working capital efficiency, CCC, and inventory turnover ratio interact with profitability in such a complex and company-specific way that whereas some companies reflect strong relationships, others do not, which again boils down to tailored financial strategies.

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