

Analysis on the management of working capital in selected Indian Pharmaceutical companies

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ABSTRACT:

The effective management of working capital is critical for sustaining operational efficiency and financial health, particularly in capital-intensive sectors such as the pharmaceutical industry. This study aims to analyze the working capital management practices of selected Indian pharmaceutical companies, focusing on their approaches to liquidity, inventory management, and debtor collection. The pharmaceutical sector, characterized by high research and development (R&D) costs, long product development cycles, and stringent regulatory requirements, faces unique challenges in balancing liquidity with profitability. The analysis explores key components of working capital—such as cash, accounts receivable, inventory, and accounts payable and their interrelations, emphasizing how pharmaceutical companies optimize cash flow while meeting operational demands. Through financial ratios like the current ratio, quick ratio, inventory turnover ratio, and receivables turnover ratio, the study evaluates the efficiency of these companies in managing their short-term liabilities and assets. This research highlights the need for strategic working capital management as a tool to enhance operational efficiency, reduce financial risks, and support the sustainable growth of Indian pharmaceutical companies. Further, the study underscores the importance of dynamic policies that adapt to changing market conditions and regulatory environments, particularly in a rapidly evolving industry like pharmaceuticals.

Keywords: *Working Capital Management ,Indian Pharmaceutical Industry, Liquidity Management, Inventory Management, Financial Ratios*

Introduction

The term 'Working Capital' is sometimes misunderstood within the banking and accounting sectors. There seems to be a lack of consensus among its users over the definition of working capital. It may either lack sufficient understanding or the users may lack consistency in its use. Assets are classified as current and fixed assets, while liabilities are divided into short-term operational liabilities, longterm and short-term capital debt, and equity. Current liabilities include short-term operational commitments and short-term financial responsibilities; conversely, long-term debt and equity are seen as long-term resources[1]. Working capital is defined as the difference between current obligations and current assets. The concepts labor and capital should be examined independently while assessing their synthesis. The phrase "working" refers to contributing to profits or participating in productive

activities in some capacity. It signifies a contrast between capital that engages in commitments or investments in production and that which remains inactive. Such differences are, however, deceptive. Capital spent in either fixed or current assets enhances productive processes. Thus, the term 'running' may be restricted to the expenditures incurred during the year for generating revenue. The word 'running' also refers to the portion of inventory investment that is to be turned into cash within an accounting year or business period. To differentiate these assets from fixed assets supported by longterm investments, they are referred to as 'current assets'[2].

Economists agree that this represents wealth used for future growth, which may be expressed in either monetary or non-monetary terms. Accountants define capital as the excess of assets over obligations, which essentially equates to net interest. Legally, 'capital' denotes the portion of consideration that a company acquires upon the issuance of its 'shares.' In a business context, capital denotes an enterprise's specific resources or assets expressed in financial terms. These traits are either 'tangible' or 'impossible' as well. Consequently, inside the firm, the term capital refers to cash or cash equivalents used in the business, irrespective of the means of acquisition. Capital may be substituted with 'total savings' for them[3]. Regarding the term 'working capital,' some define 'money' based on the relationship between net assets and net liabilities, rather than the relationship between existing assets and existing obligations. Individuals who see capital as the genuine assets of a firm, whether 'tangible' or 'intangible,' acknowledge working capital as the total of all 'current assets.' This traditional notion of working capital denotes the financial assets available to cover current obligations for short-term cash needs[4].

Accounting rules assume that costs or obligations will be short-term, either converting to cash (in the case of assets) or becoming payable (in the case of liabilities) within one year. Current assets and existing obligations are often seen as short-term based on this assumption. Nonetheless, properties are often seen as a finite construction. Working capital may alternatively be defined as the disparity between fixed assets and capital. To finalize our understanding of the working capital idea, we must examine its role in facilitating commercial activity; a firm seeks to finance its operating expenditures[5]. The operating investment of a company include its inventory (including raw materials and finished items), trade receivables, and a requisite level of liquidity necessary for typical business operations, together referred to as the firm's current assets. This expenditure is often partly financed by the company's short-term financial liabilities or by reimbursements from manufacturers, employees, and the tax authorities provided to the firm. The company's surplus operational investment, defined as the residual financial capital required to maintain the firm's operations after accounting for its short-term operating obligations, is referred to as its operating financial (FNOs). Short-term operational liabilities exclude short-term financial loans; instead, they include obligations to suppliers, workers, and tax authorities, which arise spontaneously from the act of doing business[6].

The company's FNOs may be seen as a temporary strategy, since both current assets and short-term operating liabilities fluctuate with the company's operational level and therefore with the majority of its operational and short-term choices. As FNOs denote the net operational investment required for company operations, identifying viable funding sources for this need is essential for a corporation. In conclusion, one may ascertain that the firm is generating operational financial requirements. Working capital is a source of money that the firm will use to meet its needs; short-term financial debt may be employed to finance the remainder. In this approach, a corporation strategically utilizes the total working capital to ascertain the proportion of fixed operational needs to finance with long-term capital vs short-term financial debt[7].

Presently India is among the foremost developing pharmaceutical markets globally. The industry is mostly knowledge-driven, and the Indian economy is significantly impacted by its consistent growth. The organized nature of the Indian pharmaceutical business is drawing several corporations who deem it viable to expand their operations in the area. The contemporary Indian pharmaceutical sector has significantly progressed from its humble beginnings in the previous century to become the most advanced in the developing world. An extensive collection of cures originating from the inception of civilization, based partially on empirical findings and partially on beliefs. Certain individuals within each group specialized in the use or processing of plant and animal resources, as well as in the remedies for diseases. The scientific endeavors in India are historically significant. The ancillary interest of her priesthood was in that matter. The first reference to a chemist's business established in India dates to 1811, when a young Scotsman called Mr. Bathgate, who arrived in India with the East India Company, started his establishment in Calcutta (now known as Kolkata). This firm started the production of tinctures and spirits in 1910, a century after it began selling and dispensing.

The birth of the contemporary Indian pharmaceutical business occurred when Acharya Prafulla Chandra Roy established a little firm in Calcutta, named Bengal Chemical and Pharmaceutical Works, with a capital of Rs. 25,000. In 1903, Prof. T. K. Gajjar established a little workshop in Parel, Bombay (now known as Mumbai). The establishment of this facility resulted in the formation of another significant pharmaceutical manufacturing entity in 1907, The Alembic Chemicals Works Ltd., with Baroda designated as its location. Regarding pharmaceutical substances, India was, Prior to 1948, India mostly produced processed goods, such as tablets and ampoules/capsules, in addition to vaccines and sera. The availability of pharmaceuticals, raw materials, and packaging materials relied on other nations. Prior to independence, the pharmaceutical sector was mostly confined to the local formulation of produced raw materials held by foreign corporations[8]. The local industry, aiming to use local inventories, faced several hurdles, including pressure from overseas manufacturers and insufficient government financing, resulting in little progress.

Following independence, India began allocating its resources across all sectors to foster economic development, including the pharmaceutical business. The legislative policies enacted shortly after independence, considering the financial and technical capital of domestic resources, facilitated the entry of numerous global pharmaceutical companies to establish manufacturing facilities in the region, either as subsidiaries or in partnership with Indian entrepreneurs. The Indian government has solicited global and domestic companies to enhance and advance the nation's pharmaceutical infrastructure. Mumbai was the primary preference for American, UK, and European companies to establish their presence in India. Numerous foreign firms entered India throughout the 1950s, 1960s, and 1970s. Indian industries preferred Mumbai due to its rapid importation of bulk pharmaceuticals and 'equipment from other nations. Following 1980, an increasing number of enterprises began the pharmaceutical manufacture of both bulk materials and formulations[8][9]. In India, the pharmaceutical industry has undergone significant transformation in its business strategy in recent years in anticipation of a new patent system commencing in 2005. This paradigm shift has been necessary owing to the Indian Government's prior method patent system established in 1972.

Cash Working Capital Concept

The conventional method for identifying operational capital involves distinguishing between total assets and current liabilities and needs. The source is the balance sheet as of the conclusion of a certain period. This is termed the "working capital balance sheet." It signifies a static position at the

conclusion of a designated time, since the flow of capital or prices between the two intervals of the balance sheet is not represented in the term. The actual revenue or interest allocation is articulated or included in the profit declaration. Both inflows and outflows of company value—currency and/or credit flows from items created via such a channel—are considered "currency working capital." Within the context of job resource strategy, cash working capital is the most pragmatic approach[10]

Income Generating Concept

Working capital, as defined, is the capital that generates profits for the enterprise. In expectation of revenue from sales, it refers to the investment a firm allocates to present assets. Working capital refers to money used throughout the accounting period to achieve current financial returns in alignment with the primary objective of a company's existence. The distinction between working and nonworking resources in this concept is contingent upon the contribution of funds to revenue creation and their mode of existence. 'Working funds' vary from an enterprise's 'working capital funds.' Working funds include the whole resources of a corporation, including both internal and external equity invested in current and fixed assets. Working capital funds are only invested in a company's current assets[11].

Features of Working Capital

Following are the major features of working capital:

- (a). **Brief Life Span:** Current assets, including cash, bank balances, marketable securities, accounts receivable, and inventory, possess a transient nature. Their life cycle, or transformation into another variety of CA, often does not exceed one year. Monetary deposits are generally maintained for around one week, whereas loan receivables are held for a maximum of six months. The extended life cycles of liquid assets are contingent upon the length of the company's operational time. The length of actions including raw material procurement, production cycles, distribution, and bill collection influences the lifespan of the existing properties. The lifespan of current assets and vice versa would be extended with a longer business duration.
- (b). **Rapid Conversion:** An further significant characteristic of working capital is the rapid conversion of existing assets into other forms of current assets. The funds are allocated for the acquisition of raw materials. Raw materials are transformed into advanced work and then into a finished product, often sold on credit, generating receivable accounts that are converted back into cash upon processing. The operating cycle is a succession of transformations in which certain current assets convert into other types of current assets, representing a progression from one asset to another.
- (c). **Short-term Focus:** A notable attribute of working capital is its emphasis on the financial status in the immediate future. The primary focus is on short-term purchase and asset control, often within one year; hence, the present value of capital is not relevant for assessing the financial status in this context.
- (d). **Repetitive and Frequent:** The operation of working resources include regular and recurrent activities, as elaborated under the Working Cycle section. Such procedures are often asynchronous and not immediate concerning the creation, sale, and processing of receivable accounts.
- (e). **Liquidity:** The objective of managing working capital is to maintain consistent liquidity within the organization, ensuring that neither the risk is excessive nor the return on investment diminishes. For finance managers, this work is challenging due to the ongoing fluctuations in capital asset investments and the corresponding financing requirements.

(f). Interrelation among Assets: Although current assets may be rapidly changed into various forms of currency, they are often interconnected. Current assets cannot be considered in isolation, since decisions about these assets often influence other current assets; for instance, the inventory allocation choice cannot be made without accounting for the projected revenue and accounts receivable.

Importance of Working Capital Management

India is abundant with natural and human resources. In spite of that, economic development in India fails to arrive at the desired level as per our expectations. There are so many constraints responsible for that. An important of which is the insufficiency in supply of capital resources. To accelerate the pace of development and to increase the efficiency, an effective utilisation of capital is absolutely necessary. In this context, both fixed and working capital management are of equal importance. Every enterprise needs funds for two purposes Assets have no use unless the current assets are engaged to feed them which are short lived and lose their identity during the normal course of the business. Every enterprise needs funds for two purposes Assets have no use unless the current assets are engaged to feed them which are short lived and lose their identity during the normal course of the business[12][13].

Objectives of Study

The research's primary objective is to: analyze, appreciate and scrutinize the theoretical facets of working capital management in India's pharmaceutical industry. The sub-objectives of the study are as follow:

- (a). Studying the origins and requirements of the pharmaceutical units chosen for working capital;
- (b). To research the strategies of selected pharmaceutical units on working capital;
- (c). Studying cash management and bank operations of selected pharmaceutical units;
- (d). To study the management of selected pharmaceutical unit receivables; (e).

Studying inventory management of the chosen pharmaceutical units;

Methodology

This methodology outlines the steps involved in conducting an analysis of the working capital management practices of certain Indian pharmaceutical companies[14]. The analysis focuses on key components of working capital, including cash, accounts receivable, inventory, and accounts payable, to assess the overall efficiency in managing short-term assets and liabilities.

1. Selection of Companies

- **Criteria for Selection:**

- The Indian pharmaceutical companies selected for analysis must be publicly listed and have comprehensive financial data available.
- The companies should represent a range of firm sizes, from large multinational pharmaceutical firms to medium-sized domestic companies, to provide a comprehensive overview of industry practices.
- Companies will be selected based on their market share, R&D expenditure, and importance in the Indian pharmaceutical market.

- **Sources of Data:**

- Financial statements and annual reports of the selected companies will be sourced from company websites and reliable financial databases such as Bloomberg, Capital IQ, or the Bombay Stock Exchange (BSE).

2. Data Collection

- **Period of Analysis:**
 - The analysis will cover a period of 3-5 years to capture trends and patterns in working capital management.
- **Variables Collected:**
 - Current Assets (CA) ○ Current Liabilities (CL) ○ Inventory Levels ○ Accounts Receivable ○ Accounts Payable ○ Cash Balances
 - Revenue and Cost of Goods Sold (COGS)

3. Financial Ratio Analysis

- **Current Ratio:** Measures liquidity by dividing current assets by current liabilities. It indicates the company's ability to meet short-term obligations.
 - Formula: $\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$
- **Quick Ratio:** A more stringent liquidity measure excluding inventory, assessing a company's ability to meet short-term liabilities without relying on selling inventory.
 - Formula: $\text{Quick Ratio} = (\text{Current Assets} - \text{Inventory}) / \text{Current Liabilities}$
- **Inventory Turnover Ratio:** Evaluates how efficiently a company manages inventory. A higher ratio indicates faster turnover.
 - Formula: $\text{Inventory Turnover Ratio} = \text{Cost of Goods Sold (COGS)} / \text{Average Inventory}$
- **Receivables Turnover Ratio:** Measures the efficiency of receivables collection and the speed at which companies collect payments from customers. ○ Formula: $\text{Receivables Turnover Ratio} = \text{Net Credit Sales} / \text{Average Accounts Receivable}$
- **Payables Turnover Ratio:** Assesses how quickly the company pays off its creditors and suppliers.
 - Formula: $\text{Payables Turnover Ratio} = \text{Total Purchases} / \text{Average Accounts Payable}$
- **Cash Conversion Cycle (CCC):** This metric combines inventory management, receivables collection, and payables management to evaluate the overall efficiency of working capital management. ○ Formula: $\text{CCC} = \text{Days Inventory Outstanding} + \text{Days Sales Outstanding} - \text{Days Payables Outstanding}$

Research Design: Population & Sample of the Study

The sample for the purpose of this study has been drawn from the Pharmaceutical stocks listed in National Stock Exchange Healthcare Index on the basis of simple random sample. There are more than 80 stocks listed in NSE Health Care Index. Out of these, 8 pharmaceutical companies have been selected. The selected 8 pharmaceutical units are as follows:

- (a). Alembic Pharmaceuticals Ltd (Alembic);
- (b). Cadila Healthcare Ltd (Cadila);
- (c). Glenmark Pharmaceuticals Ltd (Glenmark);
- (d). Lupin Ltd (Lupin);

(e). Sun Pharmaceuticals Industries Ltd (Sun Pharma);

Working capital accounting is one of trade and investment problems with the most participation. A significant number of studies on this subject have been conducted in various industries. An effort has been made in this particular study to concentrate on the allocation of working capital in the pharmaceutical industry in India. The key aim of the research is to get a true view of the chosen pharmaceutical firms' working capital management. A financial and operational performance analysis was conducted with a view to assessing the effectiveness of the units under study working capital [15]. The researcher also aims to assess the overall performance and to study the changes that have occurred in the units, if any. The study's probable contributors are:

- (a). The unit work capital structure has been assessed for ten years, and results have been drawn which would include recommendations for the structure of the chosen units.
- (b). The report would include guidance for other interested actors, i.e. policy, owners, borrowers, staff and customers to make their own field of interest decisions
- (c). Certainly the study would prove to be of immense help to academics, other researchers, industry itself and society at large
- (d). The study will be of assistance in observing the management of working capital in the selected pharmaceutical units. The thesis will help prospective scholars understand the specific working capital concepts / aspects and elements better.
- (e). The thesis is based on an in-depth review of the chosen pharmaceutical units and will therefore provide useful information and significantly add to the understanding of financial management in this area.

Company Name	Current Ratio	Quick Ratio	Inventory Turnover Ratio	Receivables Turnover Ratio	Payables Turnover Ratio	Cash Conversion Cycle (days)	Working Capital (INR crores)
Alembic Pharmaceuticals Ltd Company	1.85	1.4	6.2	4.5	8.1	72	950
Cadila Healthcare Ltd	2.1	1.55	7.1	5.3	9	65	1200
Glenmark Pharmaceuticals Ltd	1.95	1.45	5.8	4.8	7.9	78	890
Lupin Ltd	2.3	1.65	7.4	5.6	8.5	63	1450
Sun Pharmaceuticals Industries	1.75	1.35	6.5	4.6	8.3	70	980

Table 1. Key financial metrics commonly used in assessing working capital management.

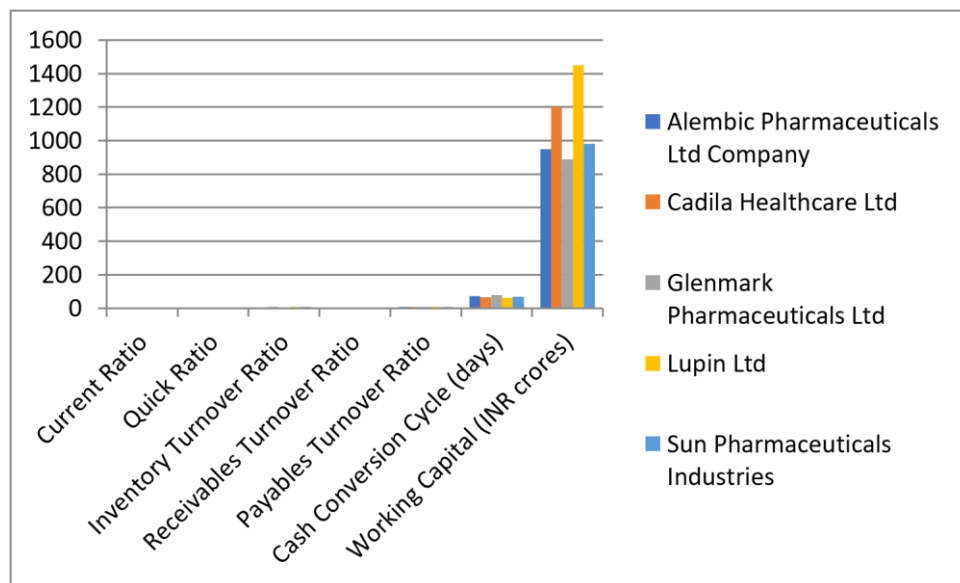


Figure 1. working capital in selected Indian pharmaceutical companies

Conclusion

The effective management of working capital is a key determinant of success in the Indian pharmaceutical sector. By striking a balance between liquidity, profitability, and operational efficiency, companies can enhance their financial stability and position themselves for sustained growth in an increasingly competitive market. Pharmaceutical companies with well-managed working capital demonstrate higher financial resilience, which is crucial in an industry characterized by long product development cycles, high R&D expenditures, and regulatory uncertainties. Effective working capital management supports sustainable growth, enabling companies to invest in innovation, product development, and market expansion without compromising financial health.

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