WORKING CAPITAL STRUCTURE AND LIQUIDITY ANALYSIS OF PHARMACEUTICAL COMPANIES

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ABSTRACT

Working capital is the life blood of every concern. This concept is gaining serious attention all over the world. The success or failure of the company is dependent on how it manages it working capital. In order to sustain for long and meet its obligations a firm must be highly liquid. So, there is a need to develop a strategy which will help in maintaining liquidity that will ultimately affect shareholders wealth. There must be optimum level of working capital. Too much or too low working capital will at last have an impact on the profitability of the concern. The present study is done in this context. This paper evaluates the working capital structure and liquidity position of 24 pharmaceutical companies that are listed on BSE. The period of study is 10 years i.e. from 2006 to 2015. The research is purely based on secondary data. With the help of averages and One-Way Anova, it is concluded that some companies form inventory as the highest portion of current assets and some

have debtors as the highest part. Some companies have negative working capital. With the help of current ratio and quick ratio, we come to know that the liquidity position of the companies is not very sound. Most of the companies have working capital turnover ratio more than the industry average depicting that they are able to generate sales more frequently out of the working capital.

Key words: working capital, liquidity, current assets, current liabilities, current ratio, quick ratio

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INTRODUCTION

Working capital is the money needed for running conventional operations of business of a firm. Hence, it is the lifeblood of any business concern. One of the reasons for firm's deterioration is lack of ability to meet working capital needs. So, in order to survive firm's required sound working capital management. Finance manager devote 60% of its time on it. The first task assigned to employees in the finance department involves working capital **(Afza and Nazir, 2008; Sebhatleab, 2002)**.For smooth functioning of the routine business, it is necessary to mediate between liquidity, profitability and risk. **(Chakraborty K., 2008)**.Financing of the difference between short term assets and short term liabilities is working capital management. Short-term assets encompass stock, loans and advances, trade receivables, investments, and cash and bank balances. Short-term liabilities encompass creditors, trade advances, borrowings and provisions. Normally, working capital is called positive working capital (excess of current assets over current liabilities). But working capital can be negative also (excess of current liabilities over current assets). Previously it was considered as a risk of bankruptcy of the organizations but now negative working capital shows managerial efficiency in a business which demonstrates that instead of company's own working capital, daily routine activities are subsidized by customers. As profit is the most important financial objective of the business, profitability is considered most important part of the financial analysis. But liquidity is also important. Liquidity is having enough funds in the form of cash, or equal to cash, to meet the financial commitment. In business, cash is emperor, particularly during tenacious economic times or when the markets are swirling. If there is no cash, company can neither carry its commitments nor grow. Such companies can be declared a sick company or bankrupt company. It may find it difficult to get credit. It will loose the confidence of their creditors and goodwill of the firm will be affected. A firm in order to sustain for long and meet its obligations on time must be highly liquid. If there is adequate liquidity management, the enterprise can convert its failure into success**.** If the funds are unnecessarily lying idle, it will reduce the liquidity of the company therefore profitability is also affected**. (Panigrahi, A.K., 2013).** All items of current assets do not have same degree of liquidity. It depends upon the speed with which current assets are converted into cash. All other things being equal, more the proportion of liquid asset, lesser is the risk of running out of cash. **(Panigrahi, A.K., 2012)**. Since the study of liquidity has close relationship with routine operations of the business, it is important to both the internal and external analysts. **(Bhunia,**

2007). **Padachi K. (2006)** reported that "Liquidity is a precondition to ensure that firms are able to meet its short-term commitments and its sustaining flow can be guaranteed from a profitable venture. The importance of cash as a barometer of continuing financial health should not be startling in view of its imperative role within the business. This requires that business must be run both competently and profitably."There is no hard and fast rule to determine the peerless level of liquidity. It should neither be too high nor too low. It should be in relation to the objective of the firm and the company's objective is to maximize the profit on capital employed. It was revealed in an empirical study that unaudited balance sheet and profit and loss account of most companies had reported losses in the early 1990s. And the study mentioned that most of the loss making companies have shown at least some marginal profits by reducing the level of their inventories by just 1%.Thus, we can very well envision and acknowledge the difference made by managing all the components of working capital well. **(Satish,2007). Siddarth and Das (1994)** reported that "The major reason for slow progress of an undertaking is defalcation or wrong management of working capital." We should constantly make efforts to revamp the working capital position of the business to yield greater short term financing.

LITERATURE REVIEW

Panigrahi A.K.(2014) argued about the negative working capital management of FMCG companies and said that Nestle and HUL have poor working capital but they are able to get benefit of it because of early cash realization and negligible chances for bad debts. The current ratio of HUL and Nestle is below the satisfactory level. **Saravanan S. Et.al.(2014)** working capital of Associated Cement companies and Chettiand cement corporation has decreased over the years due to increase in current liabilities and increase in cash and bank balance and debtors. Thus, performance of cement companies showed minor weaknesses. P**anigrahi A.K. (2013)** analysed the liquidity management of 5 Indian cement companies and found that in all years current assets and current liabilities of these companies have increased manifold. Negative growth in current ratio & quick ratio shows decline in the liquidity position of companies. Working capital is decreasing slowly because growth rate of current assets is less than growth rate of current liabilities **Manjhi and Kulkarni(2013)** in analysis of working capital structure and Liquidity analysis of Gujarat textiles Industry found that the companies has good liquidity position. Except Arvind Ltd., all the other four companies had had major portion of inventories

in their current assets. Some companies have fewer sales as compared to working capital & Current assets. **Reddy P.L.N. (2012)** conducted similar study of pharmaceutical companies in Andhra Pradesh and concluded that companies have highest percentage of inventories in current assets followed by trade receivables. Some companies have lower sales over their current assets and working capital. The companies have sound working capital position. **Matarneh B. (2012)** believed that the working capital of small scale industry in Rajasthan had fluctuated from year to year which shows small scale industry invests heavily in current assets as compared to fixed assets. Inventories formed the major portion of their current asset whereas cash balance forms the lowest part. During the entire period of study there was no variation in the current ratio. **Modi S(2012)** studied the Indian automobile industry and realized that some companies like Maruti and Tata motors have positive working capital. Liquidity status of all the companies is not same. Where Hero Honda and Bajaj have low liquidity ratios, TVS, Maruti and Tata have sound liquidity ratios. Also, working capital of these companies is improving. They are not maintaining high liquidity ratios. **Seegar S et al(2011)** attempted to ascertain the working capital management of Swiss Chemical Industry and revealed that during the 8 years of study inventory levels has improved. Working capital ratio has decreased. But their working capital level is higher than Europe and U.S. With regard to their short term assets, Swiss companies are working less efficiently than its competitors. **Bhunia A & Khan I.U(2011)** studied the liquidity management efficiency of Indian steal companies and found that liquidity ratios of Indian steel companies during the period of study is found satisfactory as its average are higher than its grand industry average, which is taken as a yardstick. But liquidity position has no impact on profitability. **Gill et.al(2010)** has done an analysis of working capital management of united states of firms listed on New York stock exchange and realized that there is negative correlation between gross operating profit and accounts receivables which shows that to have positive impact on profitability average collection period must be increased. The ratio of fixed financial assets to total assets is also negatively correlated but marginally significant. Y**adav R et.al (2009)** attempted to analyse the working capital management of Maharashtra's drug listed companies and showed that during the period under study decline in debtor's balance is followed by increased in inventory and cash balance. Current assets and current liabilities are proportionate. Due to increase in creditors and decrease in debtors, liquidity level has decreased. **Sathyamoorthi C R and Wally-Dima L. B.(2008)**argued that working capital of listed retail

companies in Botswana is fluctuating during the period of study. While the cash & inventory balances increased on the other hand debtor's balance dropped. Liquidity level first increased then decreased due to increase in trade creditors and decrease in trade debtors. **Bhunia (2007),** measured the liquidity management of iron and steel companies in India and found that working capital requirements are not adequately met. An inventory level of IISCO is better than SAIL. Current ratio of SAIL is better than IISCO which shows that liquidity position of both IISCO and SAIL is poor. So to improve the liquidity position, the burden of current liabilities is to be reduced. For this, more investment is required to be injected. **Mandal N. Goswami S.(2010)** explored the impact of working capital management on liquidity, profitability of ONGC and found that average current ratio is 2.77 which is found to be above the standard norm 2: 1 which is a good indication about the safety of funds for the short term creditors. Quick ratio is 2.51 which is much more than the standard norm of 1:1 which shows that short term solvency position is satisfactory. According to **Raheman & Nasr(2007)** analysed the working capital management of Pakistani Firms listed on Karachi stock exchange and found that huge amount of cash is invested in working capital. There is a significant negative relationship between net operating profitability of those firms and average collection period, inventory turnover in days and average payment period. **Quayyum S.T. (2011) Lazaridis and Tryfonidis (2006)** observed the working capital management and liquidity of cement industry of Bangladesh and found that total asset turnover of these firms is 1. Firm's take around 93 days on average to realize net cash on selling of a particular good while the creditors are paid before the cash is received from the customers. Inventory takes on average of 58 days to get sold that indicates that cash can be handled with more efficiency. **Sharma S. & Chary T.(1999)** in their study on VST industries Ltd. revealed that these industries have efficient working capital management working capital turnover ratio has declined due to disproportionate investment in current assets in relation to sales. After analysing current ratio, quick ratio and working capital turnover ratio, found that inventory is not managed efficiently which lead to lower profitability. **Reddy & Rao (1996)** studied working capital of Hindustan cable Ltd. and after studying the current ratio, working capital turnover ratio came on the conclusion that liquidity position of the company was unsatisfactory. The company needs to do lot of improvement in management of inventory and debtors. They should have proper control on current assets. **Das (1994)** ascertained working capital management in selected

pharmaceutical companies and concluded that average working capital turnover was 9.03 times which has declined slowly under the period of study**.**

NEED AND OBJECTIVES

As stated above, many researchers have depicted that working capital plays an essential role in the economic success of the business. It is at this juncture that the business needs to monitor the management of working capital constantly if it wants to maximize the profits. Thus, keeping the importance of working capital management in view, the present study aims to analyze:

- To know the working capital structure of Indian Pharmaceutical companies.
- To know the liquidity position of Indian Pharmaceutical companies.
- To know the working capital turnover position of Indian Pharmaceutical companies**.**

HYPOTHESIS OF THE STUDY

The present study tests the following null hypothesis:

- HO1: The average current ratios of Pharmaceutical companies do not differ significantly.
- H02: The average quick ratio of Pharmaceutical companies does not differ significantly.
- HO3: The average ratios of current assets to total assets of Pharmaceutical companies do not differ significantly.
- HO4: The average ratio of current asset to sales of Pharmaceutical companies does not differ significantly.
- HO5: The average working capital turnover of pharmaceutical companies does not differ significantly.

METHODOLOGY OF THE STUDY

The present study was conducted for 24 pharmaceutical companies in India which are listed on BSE. The Companies are selected on the basis of availability of latest financial statements. The period of study is 10 years i.e. 1-April-2006 to 31st March 2015. The data was collected from website of money control.com and the annual reports of companies. The analysis part was carried out with the help of the variables:

- Current ratio= $\frac{\text{current assets}}{\text{Current liabilities}}$

- Quick ratio= Quick assets / Current Liabilities
- Ratio of current assets to total assets= Current assets / Total Assets
- Ratio of current assets to sales= Current assets / sales
- Working capital turnover ratio= Sales / Working capital

Along with these ratios study also uses statistical tools like averages and one-way ANOVA MS Excel software was used for this purpose.

ANALYSIS AND DISCUSSION OF RESULTS

The analysis and interpretation part of the study is carried on in sequential order of the parameters mentioned in the methodology of the study. Thus, the discussions in terms of cross sectional comparison are as follows:

➢ **Working capital structure**:

The working capital structure of Pharmaceuticals Company is shown in Table-1. Of all the current assets we can observe that, out of 24 Pharma Companies, only 10 companies have inventories as the highest component of Total Current assets. 10 companies have debtors as highest component of total current assets and the rest of 4 companies have cash & bank balance as the highest component of current assets. The average inventory of Hikal, IPCA lab and Divis lab is highest and JB Pharma has the lowest. Debtors form the highest part in JB and Shasun Pharma. The constitution of cash & bank balance is highest in the Glaxo and Pfizer and lowest in Shasun and Cipla. Of all the total current liabilities, Piramal, Aurobindo, Granules and Shasun has highest component of Current liabilities. Of all the companies, provisions are highest in Pfizer and Abbott. As far as working capital is concerned, of all the companies, Piramal, Jubliant and Astrazenecea have negative working capital. It is highest in Aurobindo, Dr. Reddy's and Cipla.

Table-1 Working Capital Composition of Pharmaceutical Companies

Name of Company	Stock(%age of T.C.A	Debtor (%age of T.C.A.)	Cash & bank bal (%age of T.C.A.)	Total Current Assets	C.L.(%age of T.C.L.)	Provision (%age of T.C.L.)	Total Current Liability	Working Capital
Biocon	33.8	48.6	17.5	768.8	76.6	23.4	476.6	292.2
Cipla	53.6	44.4	2.0	3322.1	73.7	26.3	1671	1651
Dr. Reddy's Lab	29.7	59.6	10.7	3517.6	77.7	22.3	1850	1668
Piramal	36.7	36.3	27.0	721.2	97.1	2.9	11163	-10442.1
Cadila	45.6	49.4	5.0	1013.6	78.4	21.6	839.3	174.2
Glaxo	27.2	9.5	63.3	1082.3	62.7	37.3	930.0	152.4
TTK	25.5	30.8	43.8	94.5	85.2	14.8	80.6	14.0
Divis	56.4	41.6	2.0	985.5	66.8	33.2	439.1	546.4
Lupin	40.6	57.8	1.6	2260.4	80.7	19.3	1148	1113
Novartis	27.0	24.3	45.0	242.2	62.4	37.6	180.4	61.8
Aurobindo	40.8	57.6	1.5	2701.1	94.5	5.5	1021	1680
Pfizer	24.0	16.1	59.8	652.6	50.7	49.3	354.9	297.7
Abbott	40.8	16.7	42.5	435.5	57.4	42.6	198.4	237.1
Indoco	38.1	55.2	6.7	201.0	86.2	13.8	136.9	64.1
Astrazeneca	36.5	34.1	23.2	129.2	69.8	30.2	144.0	-14.7
Jubilant	43.2	33.7	23.1	1048.9	75.4	24.6	1230	-180.8
Torrent	37.8	49.9	12.3	1016.6	82.3	17.7	691.1	325.5
Granules	48.7	43.3	8.0	146.9	94.1	5.9	104.7	42.3
Ajanta	45.6	46.9	7.5	248.0	84.3	15.7	126.3	121.7

Suven	38.0	27.6	34.3	110.9	81.0	19.0	74.0	36.9
Jb pharma	18.9	66.5	14.6	434.0	73.6	26.4	157.5	276.5
Hikal	68.3	28.4	3.3	286.5	90.4	9.6	194.9	91.6
Ipca lab	58.3	38.4	3.3	850.8	84.1	15.9	467.1	383.6
shasun	34.3	63.4	2.2	292.2	92.5	7.5	198.6	93.6

Source: From the websites of respective companies

Table-2: Average ratios of Pharmaceutical companies

Name of Company	Current ratio (in times)	Quick ratio (in times)	Current assets to total assets (in %age)	Current assets to sales (in %age)	Working Capital Turnover ratio (in times)
Biocon	1.72	1.71	47	53	6.13
Cipla	2.26	1.70	49	54	5.98
Dr. Reddy's Lab	1.78	2.19	42	56	9.03
Piramal .	2.16	3.16	24	54	9.29
Cadila	1.18	1.27	35	37	10.20
Glaxo	1.72	1.26	85	34	2.20
TTK	1.19	1.28	99.62	29	-9.82
Divis	2.16	1.26	54	65	2.89
Lupin	1.44	1.75	54	49	5.77
Novartis	4.22	3.80	33	31	1.23
Aurobindo	1.34	2.46	57	65	2.53
Pfizer	3.75	3.11	58	57	1.25
Abbott	2.32	1.47	82	30	-11.98
Indoco	1.50	1.61	51	43	8.19
Astrazeneca	1.90	1.47	84	30	-2.91
Jubilant	1.19	1.08	28	42	-35.79

Torrent	1.59	1.32	53	49	13.17
Granules	1.08	1.34	33	28	12.72
Ajanta	1.15	1.76	59	49	4.83
Suven	1.31	1.25	40	46	12.32
Jb pharma	1.59	3.22	56	62	4.18
Hikal	0.84	1.12	41	55	6.32
Ipca lab	1.30	1.28	56	44	7.52
shasun	0.89	1.58	59	44	7.16
MEAN	**1.75**	**1.81**	**53**	**46**	**3.02**

Source: From the websites of respective companies

❖ **Current Ratio:**

The current ratio of all the companies is shown in Table 2. The current ratio of 8 Companies is higher than the Industry average. Rest of the 16 companies have the Current ratio below the industry average. Novartis and Pfizer have the highest current ratio. Hikal and Shasun have the lowest current ratio. Average current ratio of sample companies were compared using one-way ANOVA and were tested by the following hypothesis (H01). The results are shown in the Table3.

➢ **HO1: The average current ratio of Pharmaceutical companies does not differ significantly.**

Table 3 :ANOVA results of current ratio of sample companies						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	151.5659	23	6.58982	11.95401	2.46E-27	1.579424
Within Groups	119.0731	216	0.551264			
Total	**270.6389**	**239**				
Source: ANOVA is performed using MS EXCEL Software						

Inference: Fcal >Fcrit. We reject HO1 and conclude that the average current ratios of Pharmaceutical companies differ significantly.

❖ **Quick Ratio:**

The average quick ratio of all the companies is shown in Table 2. The average quick ratio of 6 companies is higher than industry average of 1.81.Rest of the 18 companies having the quick ratio lowest than the industry average. The quick ratio of Novartis and JB Pharma is the highest. Jubilant and the Hikal have the lowest. The average current ratio of sample companies were compared using ONE WAY ANOVA and were tested by the following hypothesis [H02] the results are shown in table4.

➢ **HO2: : The average quick ratio of Pharmaceutical companies does not differ significantly**

Table 4: ANOVA results of quick ratio of sample companies

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	136.2877	23	5.925551	9.866272	6.6E-23	1.579424
Within Groups	129.7267	216	0.600587			
Total	**266.0144**	**239**				
Source: ANOVA is performed using MS EXCEL software						

Inference: Fcal >Fcrit. We reject HO2 and conclude that average quick ratios of pharmaceutical companies differ significantly.

❖ **Ratio of Current assets to Total assets:**

The average ratio of current assets to total assets ratio is shown in Table 2. Out of 24 companies, 12 companies have blocked highest funds in current assets out of total assets than the industry

average of 53%. Rest of the 12 companies have lowest ratio than the industry average. TTK have the highest amount of current assets out of total assets (99.62%), followed by Glaxo (85%) and Astrazeneca (84%). Piramal has the lowest (24%). The average current assets to total assets ratio of companies were compared using ONE WAY ANOVA and were tested by the following hypothesis [H03]. The results are shown in table5.

➢ **Ho3: The average ratios of current assets to total assets of sample companies do not differ significantly**

Table 5 : ANOVA results of current assets to total assets ratio of sample companies

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	8.248835	23	0.358645	7.865221	2.77E-18	1.579424
Within Groups	9.849351	216	0.045599			
Total	**18.09819**	**239**				

Source: ANOVA is performed using MS EXCEL software

Inference: Fcal >Fcrit. We reject HO3 and conclude that average ratio of current assets to total assets of pharmaceutical companies differ significantly.

❖ **Ratio of current assets to sales:**

The average ratio of current assets to sales is shown in Table 2. The average ratio of current assets to sales is higher in 12 companies than the industry average of 46%. Rest of the 12 companies have the ratio lower than the industry average. Aurobindo and Divis have the highest ratio (65%), followed by JB pharma(62%). Granules have the lowest ratio (28%). The average current assets to sales ratio of companies were compared using ONE WAY ANOVA and were tested by the following hypothesis [H04]. The results are shown in table6.

➢ **HO4: The average ratio of current assets to sales of sample companies does not differ significantly.**

Table 6: ANOVA results of current assets to sales of sample companies						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3.056851	23	0.132907	2.858264	3.7E-05	1.579424
Within Groups	10.04379	216	0.046499			
Total	**13.10065**	**239**				
Source: ANOVA is performed using MS EXCEL software						

Inference: Fcal >Fcrit. We reject Ho4 and conclude that average ratio of current assets to sales differ significantly.

❖ **Working Capital turnover ratio:**

The average ratio of working capital turnover is depicted in Table 2. Out of 24 companies, TTK, Abbott, Astrazeneca and Jubilant have negative working capital turnover ratio. 5 companies have the average working capital turnover ratio less than the industry average of 3.02. Rest of the 15 companies have the highest ratio than the industry average. Torrent has the highest ratio (13.17 times), followed by Granules (12.72 times) and Suven (12.32 times). The average working capital turnover ratio of companies were compared using ONE WAY ANOVA and were tested by the following hypothesis [H05]. The results are shown in table7.

➢ **HO5: The average working capital turnover of Pharmaceutical companies does not differ significantly.**

Table 7 : ANOVA is performed using MS EXCEL software						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	24548.92	23	1067.344	0.621321	0.911641	1.579424

Within Groups	371058.6	216	1717.864			
Total	**395607.5**	**239**				
Source: ANOVA is performed using MS EXCEL software						

Inference: Fcal <Fcrit. We accept Ho5 and conclude that average working capital turnover ratio of companies does not differ significantly.

LIMITATIONS

The study includes the sample of only 24 Pharmaceutical companies. Therefore, the accuracy of results is purely based on the data of sample units. If one takes more sample units the results may go slightly differently. The study is confined to 10 years data only.

CONCLUSION

The study revealed that of all the current assets across the companies, the average inventory of Hikal, IPCA lab and Divis lab is highest. Debtors form the highest part in JB and Shasun Pharma. The constitution of cash & bank balance is highest in the Glaxo and Pfizer. Piramal, Aurobindo, Granules and Shasun has highest component of Current liabilities. Piramal, Jubliant and Astrazenecea have negative working capital which implies minimal investment in current assets by the companies so as to derive a higher rate of return The average current ratio, quick ratio, current assets to total assets ratio, current assets to sales of pharmaceutical companies differ significantly. The average working capital turnover ratio of companies does not differ significantly. Most of the companies have poor current ratio and Quick Ratio which shows that the liquidity position of the Pharmaceutical companies is not sound which is contradictory to the results of Reddy P.L.N. (2012). Most of the companies have good working capital turnover ratio which means that they are able to use working capital more frequently and generate sales.

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